

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A method of fabricating a ~~self-assembled monolayer~~ layer of a substance on a substrate comprising depositing the substance on the substrate using ~~compressed~~ carbon dioxide ~~as the solvent medium for the substance.~~ in a supercritical condition.

2. (Currently Amended) ~~A~~ The method as claimed in claim 1, wherein the pressure and/or temperature of the ~~compressed~~ carbon dioxide in a supercritical condition is/are selectively controlled so as to enhance the density of the ~~self-assembled monolayer~~ layer on the substrate.

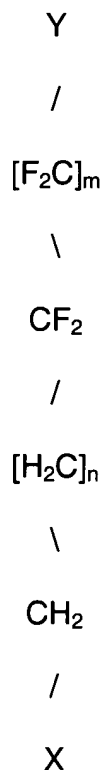
3. (Currently Amended) ~~A~~ The method as claimed in claim 1, further comprising the use of a co-solvent in combination with the ~~compressed~~ carbon dioxide in a supercritical condition.

4. (Currently Amended) A The method as claimed in claim 3, wherein the co-solvent ~~comprises~~ includes at least one of H₂O, CH₃OH, CF₃OH, CF₃CH₂OH, CF₃CF₂OH, (CF₃)₂CHOH, CH₄, C₂H₄, C₂F₆, CHF₃, CClF₃, C₂H₆, SF₆, Propylene, Propane, NH₃, Pentane, ⁱPrOH, MeOH, EtOH, ⁱBuOH, Benzene, Pyridine.

5. (Currently Amended) A The method as claimed in claim 1, wherein the substrate ~~comprises~~ includes a metallic substance.

6. (Currently Amended) A The method as claimed in claim 5, wherein the metallic substance ~~comprises~~ includes at least one of gold, silver, copper, iron, mercury, palladium, gallium arsenide, ferrous oxide, indium tin oxide.

7. (Currently Amended) A The method as claimed in claim 6, wherein the substance ~~comprises~~ includes a semi-fluorinated sulphur containing compound of the formula:



where X ~~comprises~~ includes R-SH, RS-SR or R-S-R, where R denotes the rest of the molecule;

Y ~~comprises~~ includes a functional group; and

m and n denote respectively the number of fluorinated and non-fluorinated carbon atoms.

8. (Currently Amended) A The method as claimed in claim 7, wherein X ~~comprises~~ includes a disulphide of sulphur.

9. (Currently Amended) A The method as claimed in claim 7, wherein X ~~comprises~~ includes a thiol.

10. (Currently Amended) A The method as claimed in claim 7, wherein Y ~~comprises~~ includes a CF₃ functional group.

11. (Currently Amended) A The method as claimed in claim 7, wherein m and n lie within the range of 1 to 20.

12. (Currently Amended) A The method as claimed in claim 11, wherein m and n lie within the range of 5 to 10.

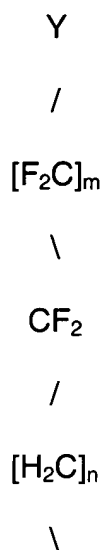
13. (Currently Amended) A The method as claimed in claim 12, where m is 8 and n is 10.

14. (Currently Amended) A The method as claimed in claim 7, wherein Y further ~~comprises~~ includes at least one of vinyl, styryl, acryloyl, methacryloyl or alkyne in combination with a spacer group.

15. (Currently Amended) A The method as claimed in claim 14, wherein the spacer group ~~comprises~~ includes at least one of CH₂ or CF₂.

16. (Currently Amended) A The method as claimed in claim 1, wherein the substrate ~~comprises~~ includes at least one of glass, mica, SiO₂, Al₂O₃, Ga₂O₃ or ITO.

17. (Currently Amended) A The method as claimed in claim 16, wherein the substance ~~comprises~~ includes a semi-fluorinated silane derivative of the formula:



CH₂

/

Si

where Y ~~comprises~~ includes a functional group; and

m and n denote respectively the number of fluorinated and non-fluorinated carbon atoms.

18. (Currently Amended) A The method as claimed in 17, wherein Si ~~comprises~~ includes a trialkoxy derivative.

19. (Currently Amended) A The method as claimed in claim 18, wherein Si ~~comprises~~ includes at least one of SiCl₃, Si(OCH₃)₃, Si(OCH₂CH₃)₃, Si(OCH₃)₂Cl or Si(CH₂CH₃)₂Cl.

20. (Currently Amended) A The method as claimed in claim 17, wherein Y ~~comprises~~ includes a CF₃ functional group.

21. (Currently Amended) A The method as claimed in claim 17, wherein m and n lie within the range of 1 to 20.

22. (Currently Amended) A The method as claimed in claim 21, wherein m and n lie within the range of 5 to 10.

23. (Currently Amended) A The method as claimed in claim 22, wherein m is 6 and n is 1.

24. (Currently Amended) A The method as claimed in claim 17, wherein Y further ~~comprises~~ includes at least one of vinyl, styryl, acryloyl, methacryloyl or alkyne in combination with a spacer group.

25. (Currently Amended) A The method as claimed in claim 24, wherein the spacer group ~~comprises~~ includes at least one of CH₂ or CF₂.

26. (Currently Amended) A The method as claimed in claim 1, wherein the ~~self-assembled monolayer~~ layer has an ellipsometry thickness of about 30Å and a water contact angle of about 110°.

27. – 30. (Canceled)